

SERVICE MANUAL

AI-1110 Stereo Amplifier

 **Sherwood**

Specifications

MINIMUM CONTINUOUS AVERAGE POWER OUTPUT PER CH,
both channels driven with no more than 0.2% THD.

at 8 ohms, 1KHz 53W
at 8 ohms, 40-20,000 Hz 50W

INTERMODULATION DISTORTION, 60 Hz:7KHz = 4:1 SMPTE
50W output into 8 ohms 0.2%

DAMPING FACTOR

at 1 KHz, 8 ohms 50

INPUT SENSITIVITY for 50w output, 8 ohms at 1KHz

PHONO 2.5mV

AUX/TUNER 150mV

PHONO PREAMP INPUT OVERLOAD

at 1KHz, 0.1% THD 150mV

at 10KHz, 0.1% THD 600mV

SIGNAL TO NOISE RATIO, IIF "A" wtd/unwtd

PHONO 74/66dB

AUX (CD/VIDEO) 94/88dB

FREQUENCY RESPONSE

PHONO, RIAA 40-20,000Hz ± 0.5 dB

AUX at 1W, -3 dB 5Hz-50KHz

LOUDNESS CONTOUR

at 100Hz $+7$ dB

at 10KHz $+3$ dB

TONE CONTROL

BASS at 100Hz ± 10 dB

TREBLE at 10KHz ± 10 dB

CHANNEL SEPARATION at AUX

100Hz 50dB

1KHz 45dB

10KHz 40dB

POWER CONSUMPTION

95W (MIN 20W, MAX 230W)

DIMENSIONS (W×H×D)

440 (W) × 92 (H) × 245 (D) mm

WEIGHT

5.6kg

Note: Design and specifications subject to change without
notice for improvements.

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Electrical Parts List

MAIN BOARD 4002117200

Ref. No.	Parts No.	Description	Position	Version
• IC				
IC101	2168220104	AC NJM 4558DD	1A	
• TRANSISTORS				
Q301L/R	2008015700	2SA 798G	2B	
Q303L/R	2008606107	KTC 2229Y	2B	
Q304L/R	2028406120	KTC 2235Y	2C	
Q305L/R	2028106107	KTA 965Y	2C, 2D	
Q306L/R	2028220104	2SC 3854	2C, 2F	
Q307L/R	2028116104	2SA 1490	2D, 2E	
Q308	2008609101	MPS A05	2E	
Q901	2008609101	MPS A05	2E	
Q902L/R	2008610102	2SD 1302S	2B	
Q903	2028406121	KTD 1406	2E	
Q904L/R	2208206105	KTA 1015Y	2F, 2E	
• DIODES				
D301L/R	2258106100	1N 4002	2D	
D302L/R	2258106100	1N 4002	2D	
D303	2058599112	Zener RD 20BM	2E	
D901	2058100105	RECT 1N 5402	2F	
D902	2058100105	RECT 1N 5402	3F	
D903	2058100105	RECT 1N 5402	3F	
D904	2058100105	RECT 1N 5402	3F	
D905	2258106100	1N 4002	3F	
D906	2258106100	1N 4002	3F	
D907	2258106100	1N 4002	3F	
D908	2058599109	Zener RD15BM	3F	
D910	2058599109	Zener RD15BM	3E	
D911	2058599109	Zener RD15BM	3E	
• COILS				
L101L/R	2648601470	Inductor 50μH	1A	D
L501L/R	2648001010	Inductor 0.5μH	D3, E3	
• RESISTORS				
R101L/R	3069102970	C.F 1K ohm ½WJ	1A	
R102L/R	3069104970	C.F 100K ohm ½WJ	1A	
R104L/R	3069153970	C.F 15K ohm ½WJ	2A	
R105L/R	3069561970	C.F 560 ohm ½WJ	1A	
R106L/R	3069433970	C.F 43K ohm ½WJ	2A	
R107L/R	3069102970	C.F 1K ohm ½WJ	1A	
R108L/R	3069471970	C.F 470 ohm ½WJ	2A	
R109L/R	3069104970	C.F 100K ohm ½WJ	2A	
R110	3069101970	C.F 100 ohm ½WJ	2A	
R111	3069103970	C.F 10K ohm ½WJ	2A	
R112	3069103970	C.F 10K ohm ½WJ	2A	
R113L/R	3069102970	C.F 1K ohm ½WJ	1A	
R114L/R	3069102970	C.F 1K ohm ½WJ	1A	
R115L/R	3069102970	C.F 1K ohm ½WJ	1A	
R116L/R	3069102970	C.F 1K ohm ½WJ	1B	
R117L/R	3069102970	C.F 1K ohm ½WJ	1B	
R118L/R	3069102970	C.F 1K ohm ½WJ	1B	
R124L/R	3069473970	C.F 47K ohm ½WJ	3B	
R126L/R	3069562970	C.F 5.6K ohm ½WJ	3B	
R127L/R	3069102970	C.F 1K ohm ½WJ	3B	
R300L/R	3069152970	C.F 1.5K ohm ½WJ	2B	
R301L/R	3069153970	C.F 150K ohm ½WJ	2B	
R302L/R	3069102970	C.F 1K ohm ½WJ	2B	
R303L/R	3069183970	C.F 18K ohm ½WJ	2B	
R304L/R	3069122970	C.F 1.2K ohm ½WJ	2B	
R305L/R	3069152970	C.F 1.5K ohm ½WJ	2C	
R306L/R	3069562970	C.F 5.6K ohm ½WJ	2C	
R307L/R	3069392970	C.F 3.9K ohm ½WJ	2C	
R308L/R	3069182970	C.F 1.8K ohm ½WJ	2C	
R309L/R	3069203970	C.F 20K ohm ½WJ	2B	
R310L/R	3069152970	C.F 1.5K ohm ½WJ	2C	
R311L/R	3069104970	C.F 100K ohm ½WJ	2C	
R312L/R	3039271472	M.O 270 ohm 1WJ	2C	
R313L/R	3059278682	Cement Res 0.27 ohm (3W)	2C, 2E	
R314L/R	3059278682	Cement Res 0.27 ohm (3W)	2D, 2E	
R315	3039392472	M.O 3.9K ohm 1WJ	2E	
R316	3069333970	C.F 33K ohm ½WJ	2E	
R501L/R	3069220970	C.F 22 ohm ½WJ	2D, 2E	
R502L/R	3069220970	C.F 22 ohm ½WJ	2D	
R502L/R	3069220970	C.F 22 ohm ½WJ	2D	
R503L/R	3069220970	C.F 22 ohm ½WJ	2D	
R901	3039152572	M.O 1.5K ohm 2WJ	2F	

Ref.No.	Parts No.	Description	Position	Version
R902	3069332970	C.F 3.3K ohm ½WJ	3F	
R903	3069103970	C.F 10K ohm ½WJ	3F	
R904	3069470970	C.F 47 ohm ½WJ	3F	
R905	3069103970	C.F 10K ohm ½WJ	3F	
R906	3069823970	C.F 82K ohm ½WJ	3F	
R907	3069224970	C.F 220K ohm ½WJ	2E	
R908L/R	3069332970	C.F 3.3K ohm ½WJ	2B	
R909	3069100472	M.O 10 ohm 1WJ	2E	
R910	3069122970	C.F 1.2K ohm ½WJ	2E	
• CAPACITORS				
C100	3579473530	Ceramic 0.047μF/50WV	1A	
C101L/R	3579220130	Ceramic 22pF/50WV	1A	D
C102L/R	3579680130	Ceramic 68pF/50WV	1A	
C103L/R	3479247971	Elect 4.7μF/50WV	1A	
C104L/R	3479100030	Ceramic 10pF/50WV	1A	
C105L/R	3479222530	Ceramic 2200pF/50WV	1A	
C106L/R	3479182120	Mylar 0.0018μF/50WV	2A	
C107L/R	3479222031	Elect 22μF/16WV	1A	
C108L/R	3679562120	Mylar 0.0056μF/50WV	2A	
C109L/R	3479222971	Elect 2.2μF/50WV	2A	
C110L/R	3679152120	Mylar 0.0015μF/50WV	2A	
C111L/R	3479472871	Elect 0.47μF/50WV	2A	
C112	3409210161	Elect 100μF/35WV	2A	
C113L/R	3409210131	Elect 100μF/16WV	2A	
C114L/R	3579331130	Ceramic 330pF 50WV	1A	D
C115L/R	3579331130	Ceramic 330pF 50WV	1A	D
C116L/R	3579331130	Ceramic 330pF 50WV	1B	D
C117L/R	3579331130	Ceramic 330pF 50WV	1B	D
C118L/R	3579331130	Ceramic 330pF 50WV	1B	D
C119L/R	3579331130	Ceramic 330pF 50WV	1A	D
C120L/R	3579331130	Ceramic 330pF 50WV	1A	D
C121L/R	3579331130	Ceramic 330pF 50WV	1B	D
C122L/R	3579331130	Ceramic 330pF 50WV	1B	D
C123L/R	3579331130	Ceramic 330pF 50WV	1B	D
C124L/R	3479247971	Elect 4.7μF/50WV	3B	
C125L/R	3579331130	Ceramic 330pF/50WV	3B	
C126L/R	3679104120	Mylar 0.1μF/50WV	3B	
C300L/R	3579471130	Ceramic 470PF/50WV	2B	D
C301L/R	3479247871	Elect 4.7μF/50WV	2B	
C302L/R	3579151130	Ceramic 150pF/50WV	2B	
C303L/R	3579150130	Ceramic 15pF/50WV	2B	
C304L/R	3479222031	Elect 22μF/16WV	2C	
C305L/R	3479222031	Elect 22μF/16WV	2C	
C306L/R	3479222031	Elect 22μF/16WV	2C	
C307L/R	3579101130	Ceramic 100pF 50WV	2C	
C308L/R	3579473530	Ceramic 0.047μF/50WV	2C	
C309L/R	3579101130	Ceramic 100pF/50WV	2C, 2D	
C310L/R	3579473530	Ceramic 0.047μF/50WV	2C, 2D	
C313L/R	3409210171	Elect 100μF/50WV	2E	
C314L/R	3479222071	Elect 22μF/59WV	2E	
C315L/R	3479222071	Elect 22μF/50WV	2E	
C501L/R	3579473530	Ceramic 0.047μF/50WV	3D	
C901	3509103450	Ceramic 0.01μF/500WV	3F	D
C902	3509103450	Ceramic 0.01μF/500WV	3F	D
C903	3509103450	Ceramic 0.01μF/500WV	3F	D
C904	3509103450	Ceramic 0.01μF/500WV	3F	
C905	3509103450	Ceramic 0.01μF/500WV	3F	
C907	3479210071	Elect 10μF/50WV	3F	
C908	3419547295	Elect 4700μF/50WV	2E	
C909	3419547295	Elect 4700μF/50WV	2F	
C910	3479210071	Elect 10μF/50WV	3F	
C911	3479222071	Elect 22μF/50WV	3E	
C912	3479222071	Elect 22μF/50WV	3E	
• FUSES				
F501L/R	5502213031	STD 5A/250V	2D	
F903	5502213031	STD NB 5A/250V	2E	A
F904	5502213031	STD NB 5A/250V	2F	A
F903	5508212931	STD 4A/250V	2E	B
F904	5508212931	STD 4A/250V	2F	B
F903	5508302934	STD T 4A/250V	2E	C
F904	5508302934	STD T 4A/250V	2F	C
F501L/R	5508303034	STD F 5A/250V	2D	C, E, F

FRONT BOARD 4002117210

Ref.No.	Parts No.	Description	Version
• DIODES			
LD801	2308220507	LED SLV 56DC	A
LD802	2308220507	LED SLV 56DC	A
LD804	2308220507	LED SLV 56DC	A
LD805	2208220507	LED SLV 56DC	B
LD806	2308220507	LED SLV 56DC	B
LD807	2308220507	LED SLV 56DC	B
LD808	2308220507	LED SLV 56DC	B
LD809	2308220507	LED SLV 56DC	B
LD810	2308220507	LED SLV 56DC	B
LD811	2308220507	LED SLV 56DC	B
LD803	2308220130	LED SLV 56URC-RD	A
• RESISTORS			
R801, R802	3069202970	C.F 2K ohm $\frac{1}{8}$ WJ	A
R803, R804	3069202970	C.F 2K ohm $\frac{1}{8}$ WJ	A
R805, R806	3069202970	C.F 2K ohm $\frac{1}{8}$ WJ	A

FUSE BOARD 4002117230

Ref No.	Parts No.	Description	Version
• CAPACITOR			
C940	3547472407	Ceramic 0.0047 μ F/ 400VAC	
• FUSES			
F901	5508212931	STD NB4A/ 250V	A C.D.E.F.
F902	5508212531	STD NB2.5A/ 250V	
F902	5508302434	STD T2A/ 250V	

*REMARK

VERSION	COUNTRY	AC INPUT	REMARK (SAFETY)
A	USA/CANADA	120V/10Hz 6	U.L/C.S.A
B	US MILITARY/OTHER COUNTRIES	120V/60Hz, 220V/50Hz	
C	GENERAL EUROPE	220V/50Hz	IEC-65
D	GERMANY	220V/50Hz	FTZ
E	BRITISH/AUSTRALIA	240V/50Hz	BSI/SAA
F	SCANDINAVIAN COUNTRY	220V/50Hz	SD N E S

TONE BOARD 4002117220

Ref.No.	Parts No.	Description	Version
• RESISTORS			
R401L/R	3069152970	C.F 1.5K ohm $\frac{1}{8}$ W	B/A
R402L/R	3069821970	C.F 820 ohm $\frac{1}{8}$ W	A
R403L/R	3069154970	C.F 150K ohm $\frac{1}{8}$ W	B
R404L/R	3069393970	C.F 39K ohm $\frac{1}{8}$ W	A
R405L/R	3069473970	C.F 47K ohm $\frac{1}{8}$ W	A
R406L/R	3069153970	C.F 15K ohm $\frac{1}{8}$ W	B
R407L/R	3069332970	C.F 3.3K ohm $\frac{1}{8}$ W	B
R408L/R	3069224970	C.F 220K ohm $\frac{1}{8}$ W	A
• CAPACITORS			
C401L/R	3679472120	Mylar 0.047 μ F 50WV	A
C402L/R	3079223120	Mylar 0.022 μ F 50WV	A
C403L/R	3579309030	Ceramic 3pF 50WV	A
C404L/R	3679683120	Mylar 0.068 μ F 50WV	B
C405L/R	3679153120	Mylar 0.015 μ F 50WV	B

HEAD PHONE BOARD 4002117250

Ref.No.	Parts No.	Description	Version
• RESISTOR			
R601L/R	3039271572	M.O 270 ohm 2WJ	
• CAPACITOR			
C601L/R	3579561130	Ceramic 560pF 50WV	D

BIAS BOARD 4002117270

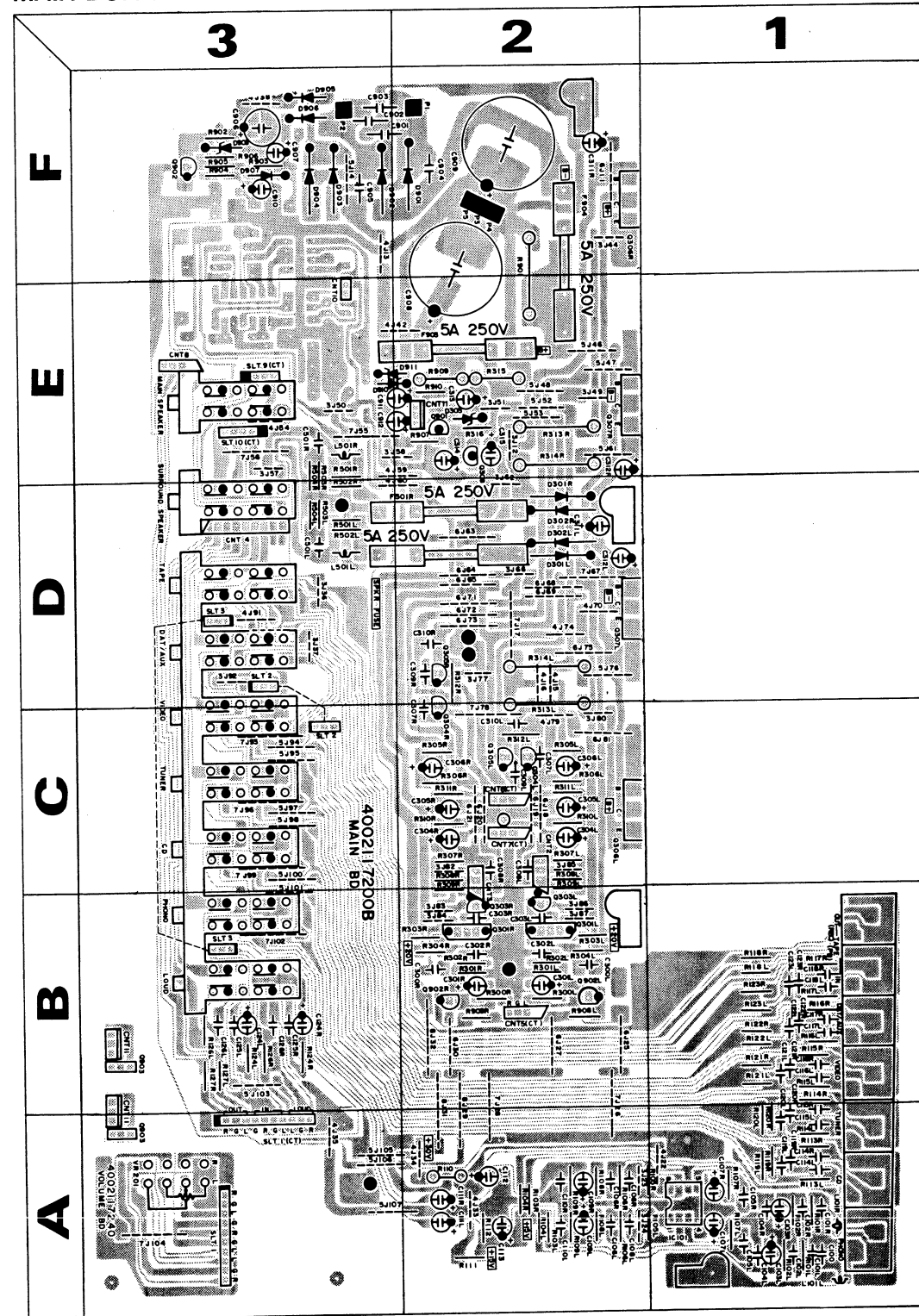
Ref.No.	Parts No.	Description	Version
• TRANSISTOR			
Q302L/R	2008609101	MPS A05	

SPEAKER BOARD 4002117260

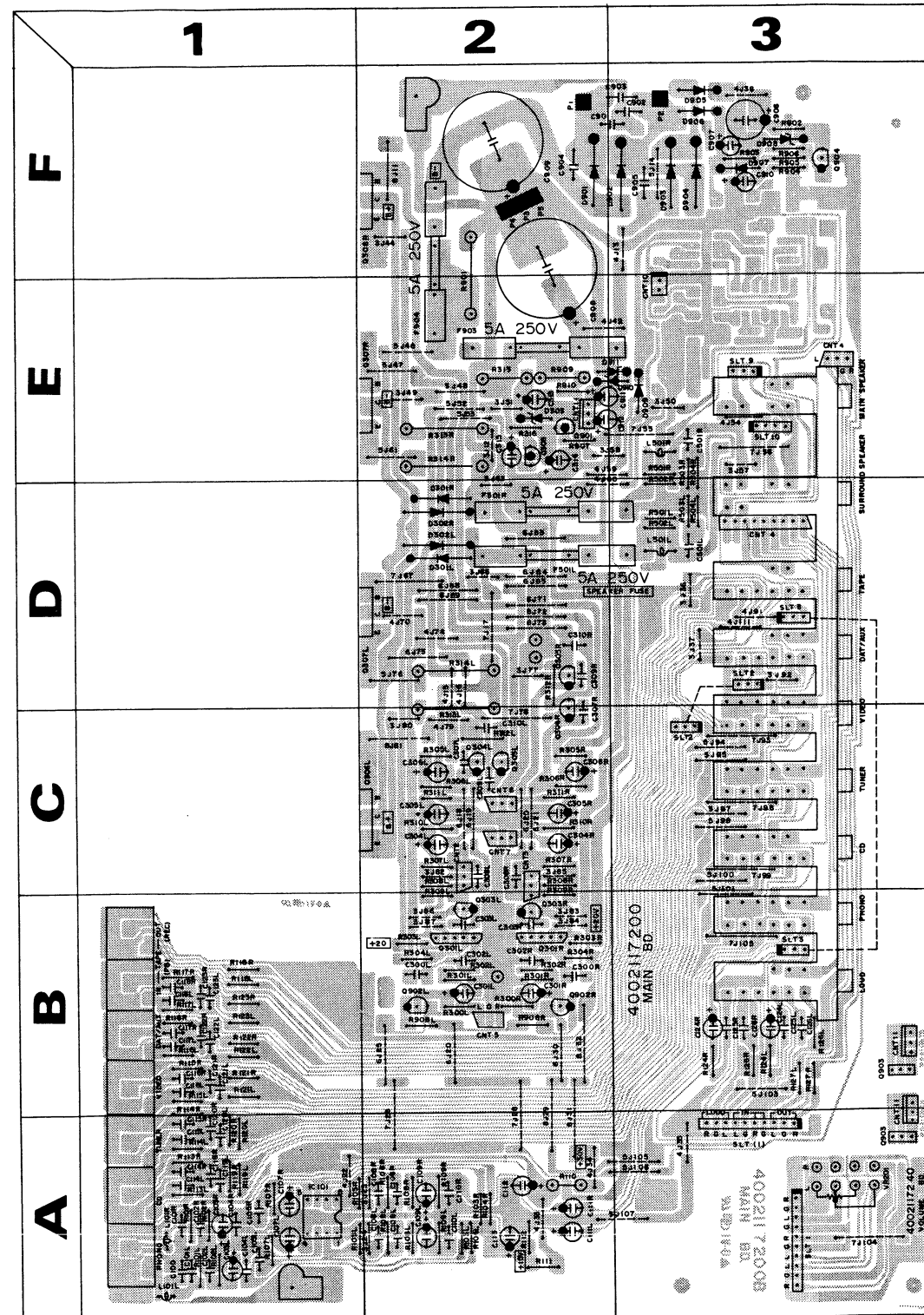
Ref.No.	Parts No.	Description	Version
• CAPACITORS			
C701L/R	3579222530	Ceramic 2200pF 50WV	D
C702L/R	3579472530	Ceramic 4700pF 50WV	D

Top & Bottom View of P.C Boards

MAIN BOARD 4002117200 —TOP VIEW—

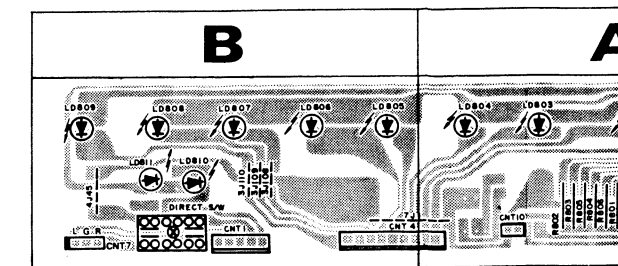


— BOTTOM VIEW —

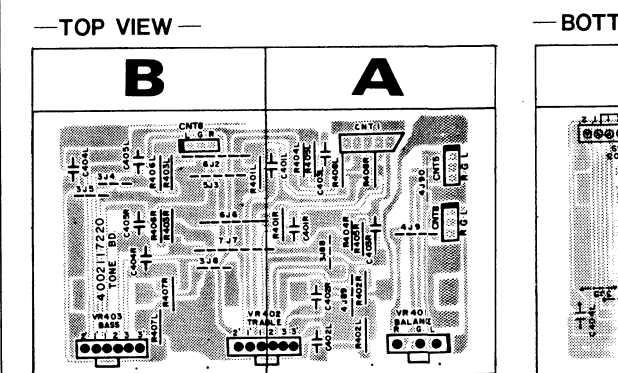


FRONT BOARD 4002117210

— TOP VIEW —

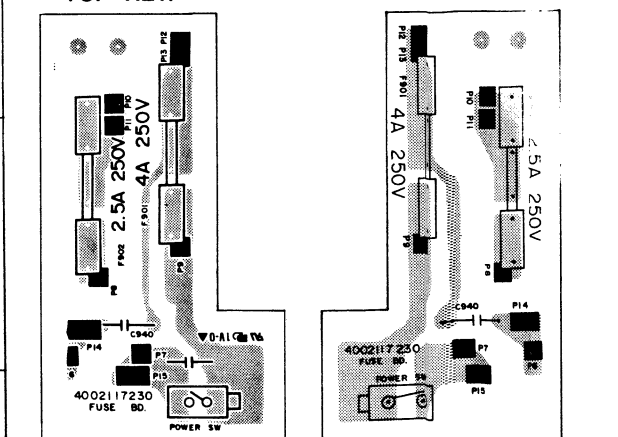


— TOP VIEW —

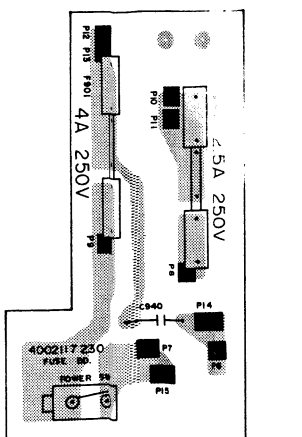


FUSE BOARD 4002117230

— TOP VIEW —



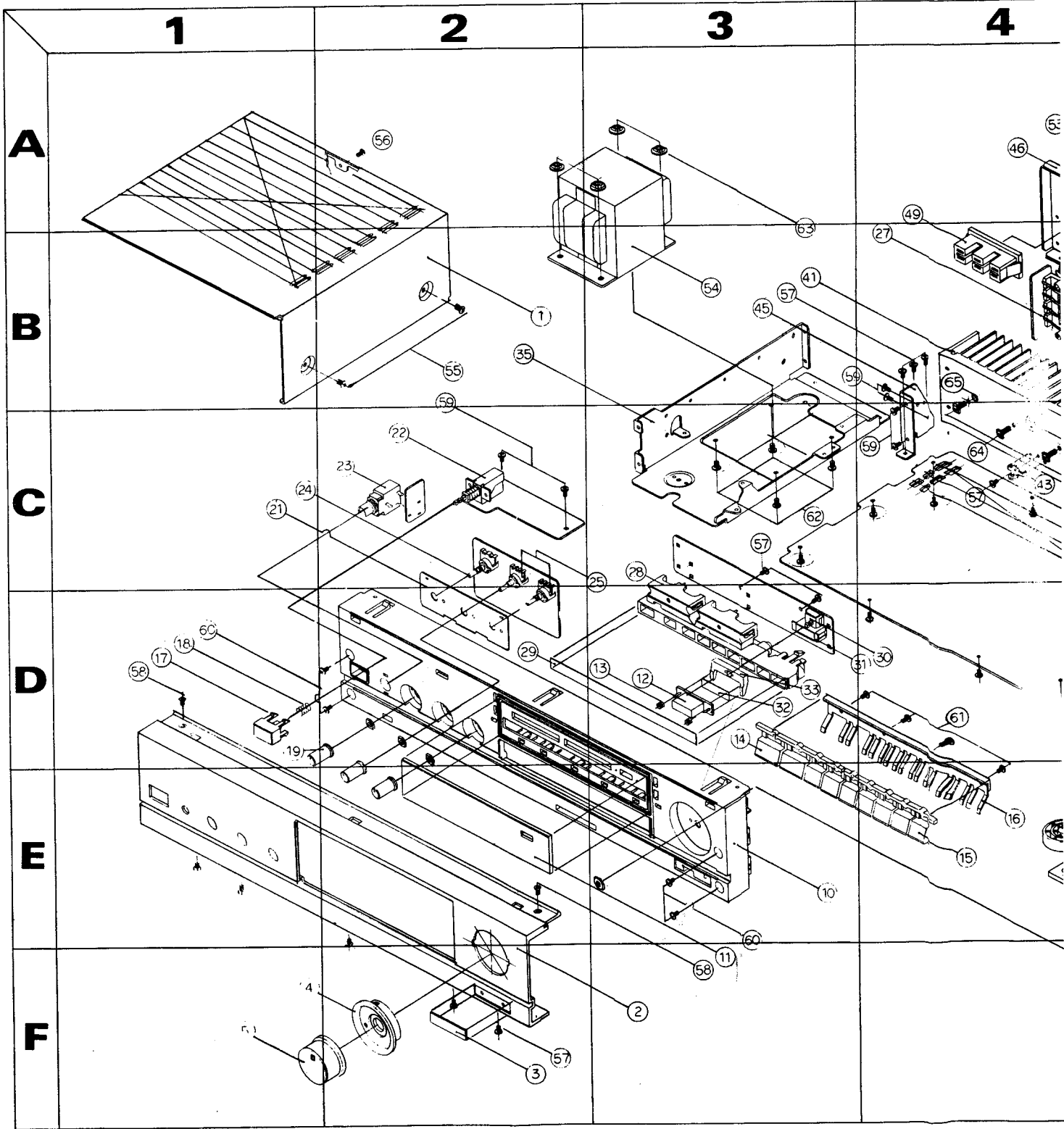
— BOTTOM VIEW —



Mechanical Parts List & Exploded View of Cabinet & Chassis

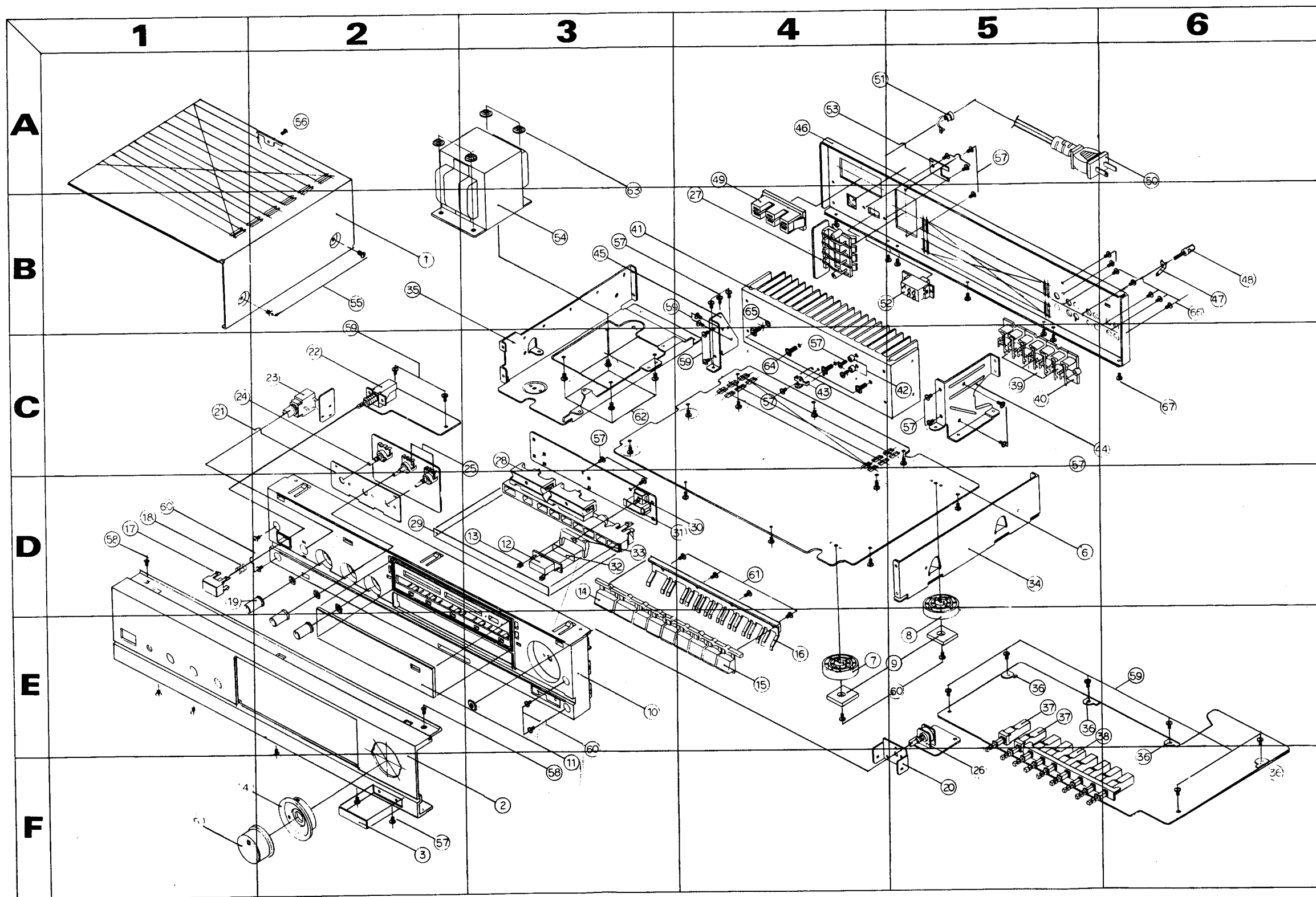
NO.	PARTSNO.	DESCRIPTION	POSITION	Q'TY	VERSION
1	046122015811	COVER TOP	2B	1	
2	048602015011	PANEL FRONT	3F	1	
3	048503019011	BADGE (SHERWOOD)	2F	1	
4	8523009210	DECORATION RING	1F	1	
5	8543013710	KNOB ROTARY	1F	1	
6	6122411710	COVER BOTTOM	5D	1	
7	046035101411	FOOT BASE	4E	2	
8	6035101410	FOOT BASE	5E	2	
9	6725002110	CUSHION FOOT	5E	4	
10	048521004111	BODY FRONT	3E	1	
11	048553007411	WINDOW FUNCTION	3F	1	
12	048545048411	KNOB DIRECT	3D	1	
13	6555006610	SPRING PUSH	3D	2	
14	048543013811	BUTTON FUNCTION(1)	3D	1	
15	048543013911	BUTTON FUNCTION(2)	4E	1	
16	056553800110	ASS'Y SPRING PLATE	4E	1	
17	048545048211	BUTTON POWER	1D	1	
18	6555004340	SPRING BUTTON	1D	1	
19	8543015810	KNOB ROTARY (T.T.B)	1D	3	
20	6165127910	SHIELD VR	5F	1	
21	6165128010	SHIELD PLATE(T.T.B)	1C	1	
22	4628044410	S.W.PUSH	2C	1	
23	4438002810	PHONE JACK	2C	1	
24	3208049410	VR 100KA X 2	1C	1	
25	3208049510	VR 100KC X 2	3C	2	
26	3208049610	VR 250KSW X 1	5F	1	
27	4408101360	TERMINAL SPEAKER (8P)	4B	1	
28	6042001310	HOLDER LED	3C	1	
29	8535020110	DIFFUSER FUNCTION	2D	1	
30	4628049810	SW PUSH (1KEY)	4D	1	
31	8655000710	REFLECTOR LED	4D	1	
32	8535020010	DIFFUSER DIRECT	3D	1	
33	6305003810	SHAFT DIRECT	3D	1	
34	6123618410	FRAME SIDE(R)	5D	1	
35	6122614910	FRAME SIDE(L)	2B	4	
36	4225005010	GROUND PLATE	5E	1	
37	4628049210	SW PUSH (1KEY)	5E	2	
38	4628049110	SW PUSH (7KEY)	6E	1	
39	4438101910	RCA JACK (4P)	5C	3	
40	4438102110	RCA JACK (2P)	5C	1	
41	7503008310	H/SINK POWER	3B	1	
42	7015003110	BUSSING	5C	2	
43	6505080610	BKT PCB(B)	4C	1	
44	6503010910	BKT H/SINK (R)	6C	1	
45	6505080110	BKT H/SINK (L)	3B	1	
46	046102021811	CH. BACK	4A	1	B
	046102021812	CH. BACK	4A	1	C,F
	046102021813	CH. BACK	4A	1	D
	046102021814	CH. BACK	4A	1	E
	046102021815	CH. BACK	4A	1	
47	4465100110	GND TERMINAL	6B	1	
48	4465100210	GND SCREW	6B	1	
49	4448100810	AC OUTLET	4A	1	
50	4308001410	CORD, AC POWER	6A	1	C,D,F
	4308000430	CORD, AC POWER	6A	1	E
	4308003610	CORD, AC POWER	6A	1	
51	6518000710	STOPPER, CORD AC	4A	1	C,D,E,F
	6518000110	STOPPER, CORD AC	4A	1	B
52	4618000410	SW SLIDE VOLTAGE	5B	1	B
53	6515000630	HOLDER VOLTAGE	4A	1	
54	2828055907	POWER TRANSFORMER	4B	1	B
	2828055901	POWER TRANSFORMER	3B	1	C,D,F
	2828051401	POWER TRANSFORMER	3B	1	E
	2828052801	POWER TRANSFORMER	3B	1	
55	8159440063	SCREW WSAM 4x6B	2B	4	
56	8119230063	SCREW #2 PTC 3x6B	2A	2	
57	8109230081	SCREW #2 BTC 3x8Y	5A 5C	18	
58	8129230081	SCREW #2 FTC 3x8Y	1D	2	
59	8129230061	SCREW #2 BTC 3x6Y	2B 6E	24	
60	8159230081	SCREW #2 WPTC 3x8Y	1D 3E	9	
61	8159226081	SCREW #2 WPTC 2.6x8Y	4D	4	
62	8159440081	SCREW WSAM 4x8Y	3C	4	
63	8209540011	NUT FLUNGE M4Y	3B	4	
64	8059130121	SCREW HEX M 3x12Y	4C	5	
65	8319130011	WASHER SPRING 03Y	4B	5	
66	8119230083	SCREW #2 PTC 3x8B	6B	6	
	8119230083	SCREW #2 PTC 3x8B	6B	2	B
67	8119130083	SCREW #1 PT 3x8 B	6C	7	

*REMARK			
VERSION	COUNTRY	AC INPUT	REMARK (SAFETY)
A	USA/CANADA	120V/60Hz	UL/CSA
B	US MILITARY/OTHER COUNTRIES	120/60Hz, 220/50Hz	
C	GENERAL EUROPE	220V/50Hz	IEC-65
D	GERMANY	220V/50Hz	FTZ
E	AUSTRALIA/BRITISH	240V/50Hz	SAA, BSI
F	SCANDINAVIAN COUNTRY	220V/50Hz	SE, N, D, F, G



ew of Cabinet & Chassis

COUNTRY	AC INPUT	REMARK (SAFETY)
USA/CANADA	120V/60Hz	UL/CSA
JAPAN/OTHER COUNTRIES	120V/60Hz, 220V/50Hz	
WESTERN EUROPE	220V/50Hz	IEC-65
GERMANY	220V/50Hz	FTZ
AUSTRALIA/BRITISH	240V/50Hz	SAA, BSI
INDIAN COUNTRY	220V/50Hz	ISI, BSI

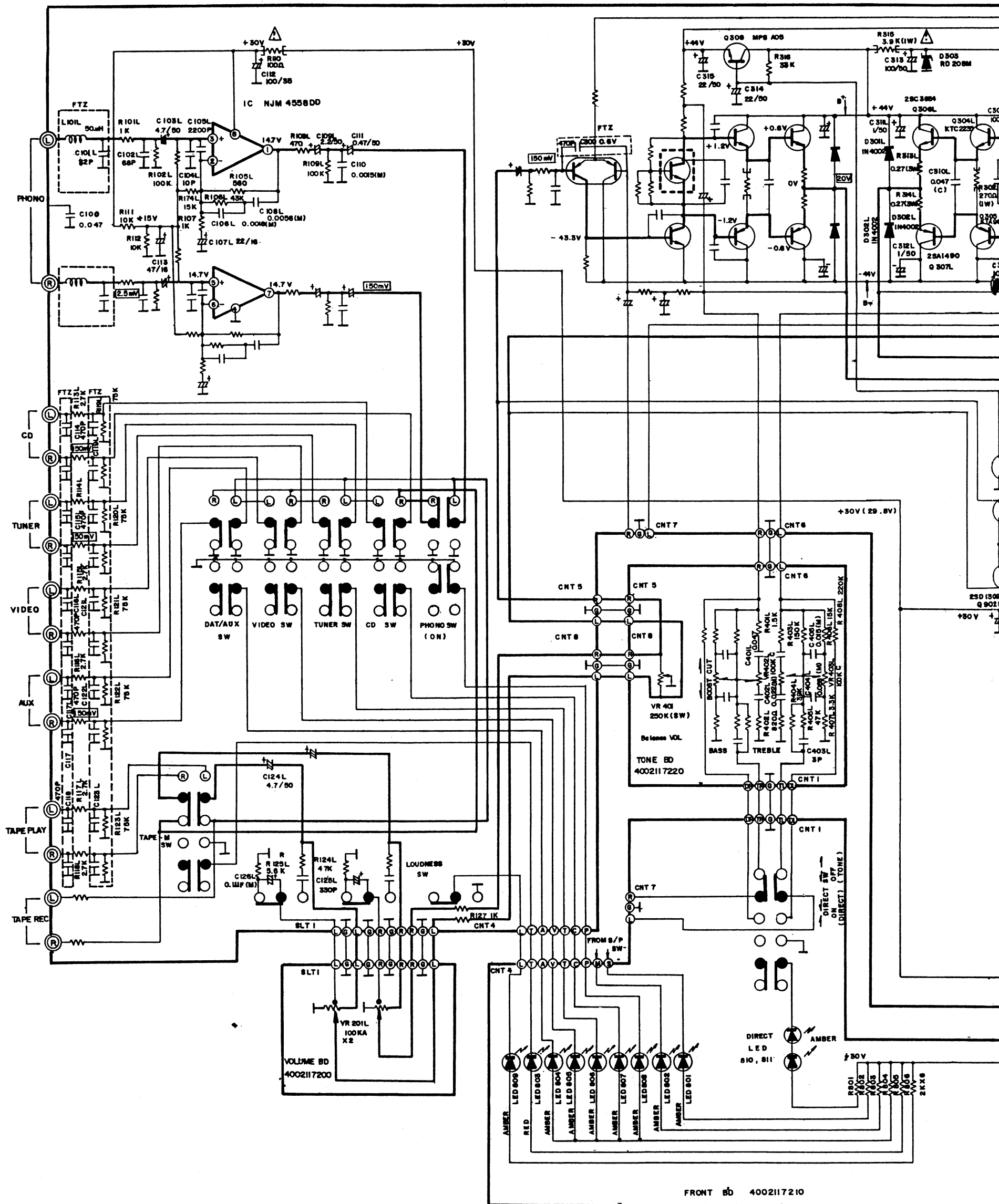


A

B

C

D

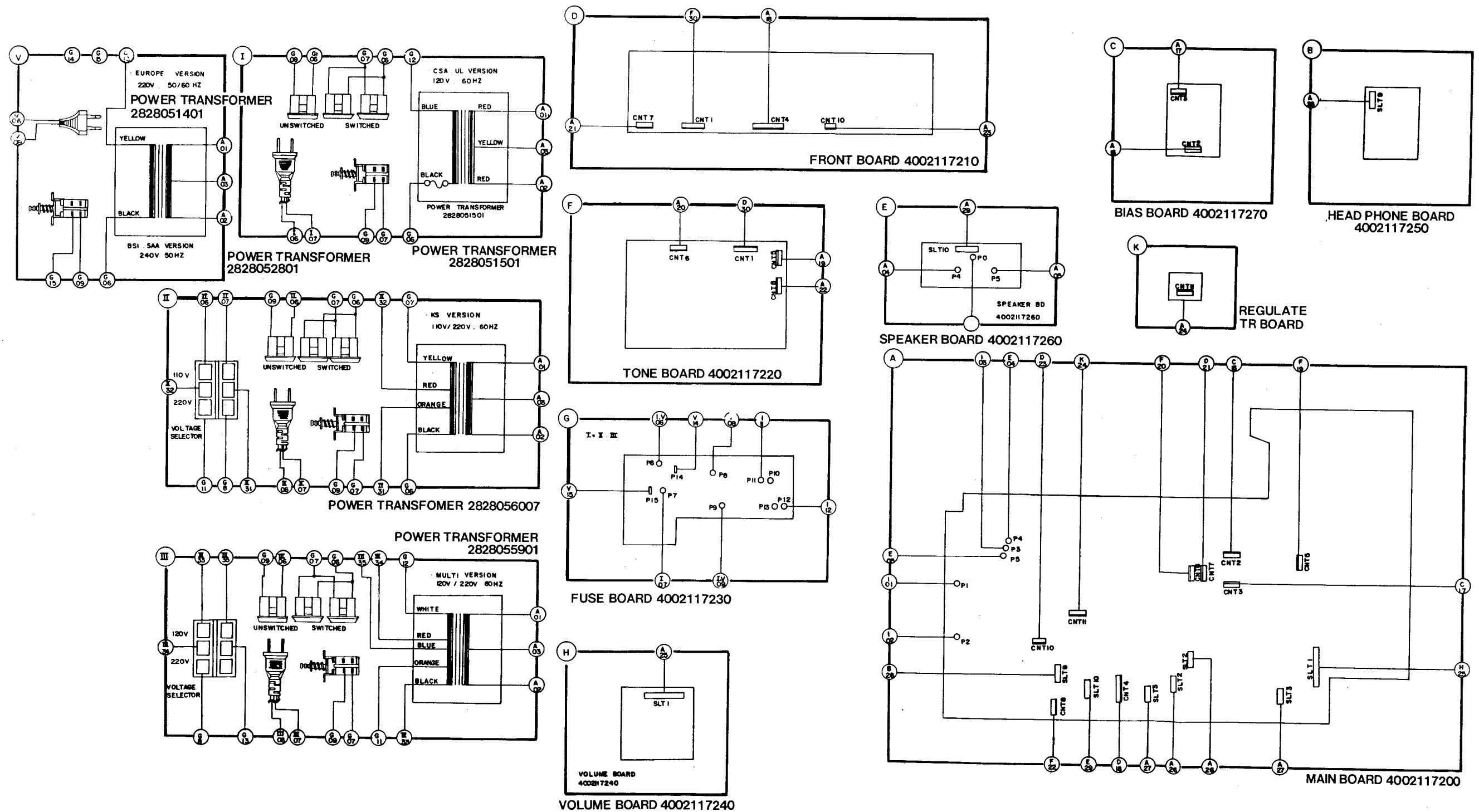
Schematic
AI-1

VERSION	A (CSA)	B (UL)
FUSE NO.	120V/60HZ	120V/220V/60HZ
F 901	NB 4 A/250V	NB 4 A/250V
F 902	—	NB 2.5A/250V
F 903	NB 5 A/250V	NB 5 A/250V
F 904	NB 5 A/250V	NB 5 A/250V
F 501	NB 5 A/250V	NB 5 A/250V
TRANS - POWER	282805101	282805580

G

	B (UL)	C-D: F (EUROPE)	E (BSI- SAA)	DOMESTIC (K-S)
120V	120/ 220V/ 60Hz	220V/ 50/ 60Hz	240V / 50Hz	110/ 220V/ 60Hz
150V	NB 4 A/250V	T 2 A /250A	T 2 A / 250V	NB .4 A/250V
200V	NB2.5A / 250V	—	—	NB2.5 A/250V
250V	NB 5 A/250V	T 4 A / 250V	T 4 A/250 V	NB 5 A/250V
300V	NB 5 A/250V	T 4 A / 250V	T 4 A /250V	NB 5 A/250V
350V	NB 5 A/250V	F 5 A /250 V	F 5 A / 250V	NB 5 A/250V
	2828055801	2828051401	2828052801	2828056007

Point to Point Wiring Diagram



Block Diagram

